



Bangalore Electricity Supply Company Limited

(Wholly owned Government of Karnataka Undertaking)

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No. BESCOM/GM(ICT&MIS)/BC-48/DGM-IT2/AGM-IT5/2024-25/2547

Date: 22 AUG 2024

CORRIGENDUM / ADDENDUM

Sub: Issue of Corrigendum/Addendum for the Tender: "Supply, install, configure, commission and maintenance of backup storage appliance including all required software license and accessories along with backup software"

Ref: Tender Enquiry No. BESCOM/2024-25/OW/ WORK_INDENT178 dated 05.08.2024

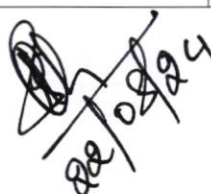
Subsequent to the clarifications raised by the prospective bidders on the referred RFP, the following terms and conditions are modified/added as below:

A) CORRIGENDUM:

Sl. No.	Clause No. / Section No.	Page No.	As Existing	As Amended
1	3.5 b) a)	29	Successful bidder shall provide 24*7*365 days' support for all supplied hardware & software through OEM.	Successful bidder shall provide 24*7*365 days' support for all supplied hardware & software through OEM via all modes. SI shall designate a dedicated team to coordinate with BESCOM and OEM for early resolution of issues during the entire contract period.
2	5.2.1 a) point 2	38	a) Two compute nodes operating in an active/active mode through an HA configuration. 3) The appliance should provide High availability and high performance.	a) Two compute nodes operating in an active/passive mode through an HA configuration. However, in the course of any node or controller failure the Bidder should replace the component within 4 Hrs. 3)The appliance should provide maximum resiliency to minimise the backup operation downtime

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			4) The storage system must be configured in No-Single-Point-of-Failure and should offer online firmware upgrades.	4) The appliance should provide maximum resiliency to minimise the backup operation downtime
3	5.2.1 a) point 3	38	The All NL-SAS array system or above must support a maximum of 4TB/6TB/8TB per disk. Sufficient No of Cold/Hot Spare Disc to be provided.	The All NL-SAS array system or above must support a maximum of 4TB/6TB/8TB per disk.
4	5.2.1 a) point 4	39	1)The storage should have a true unified storage configured with FC, iSCSI, SMB, NFS, CIFS, NDMP, SNMP, LDAP protocols for use with different applications and all protocols should support the maximum capacity offered by the storage system. Any hardware/software required for this functionality shall be supplied along with it in.	1) The storage should have a true Purpose Built Backup Appliance (PBBA) which support FC, SMB, NFS, CIFS protocols for use with different applications and all protocols should support the maximum capacity offered by the storage system. Any hardware / software required for this functionality shall be supplied along with it.
5	5.2.1 a) point 6	39	1) Proposed backup solution must provide both Fixed Length and Variable Length Data Deduplication to allow users choose the dedup option based on the backup workload. Solution should support Global Deduplication (Client side, Media Server and Target). 3) The storage should support in-line deduplication and in-line compression for entire capacity of unified storage. The disk space required to store backup data sets shall be reduced by maximum of 70% without impacting backup performance.	1) Proposed backup solution must provide both Fixed Length and/or Variable Length Data Deduplication to allow users choose the dedup option based on the backup workload. Solution should support Global Deduplication (Client side, Media Server and Target). 3) The storage should support in-line deduplication and compression on source/target for entire capacity. The disk space required to store backup data sets shall be reduced by maximum of 70% without impacting backup performance.
6	5.2.1 a) point 7	39	Minimum 2 Nos. of Dedicated Management ports shall be provided.	Appliance should have sufficient dedicated Management ports.


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7	5.2.1 a) point 8	40	Must include single management, easy to use GUI based and web enabled storage Manager software, to centrally manage all Storage subsystems, Multi-path (Load Balancing & Fail over), LUN masking and should Support RAID migration on to the vacant space available	Must include single management, easy to use GUI based and web enabled backup operation and backup storage Manager software for ease of use.
8	5.2.1 a) point 16	41	The required backup/restore job speed/throughput for various type of workloads is as below : Backup : 1) RDBMS including Oracle, SQL, MSSQL etc. > 33 TB per Hour 2) Hypervisor including VMware, OVM, Windows, file system etc. > 33TB per Hour 3) Other workloads including files, image, video > 33TB per Hour Restore : 1) RDBMS including Oracle, SQL, MSSQL etc. > 17TB per Hour 2) Hypervisor including VMware, OVM, Windows, file system etc. > 17TB per Hour 3) Other workloads including files, image, video > 17TB per Hour	The Overall capacity of Backup license covering all categories of workloads such as RDBMS, OS, etc. required is 110 TB/ 150 instance/ 80 sockets. This capacity covering all categories is required to be fully backed up within the backup window of 4 Hrs. However, the backup speed of Oracle Database being critical workload shall be greater than or equal to 33 TB/Hr. The Restoration of full capacity of 110 TB shall be within 8 Hrs and for Database it shall be greater than or equal to 17 TB/Hr
9	5.2.2 b) point 4	46	d) Email environment's like exchange, Gmail, SharePoint and File share backup(SMB) etc.	d) Email environment's like on-premises exchange, SharePoint and File share backup(SMB) etc.
10	5.2.2 b) point 5	47	Backup software should support instant file share recovery in i storage to allow users to access files fast after disaster.	Backup software should support file share recovery in NAS storages to allow users to access files fast after disaster. Backup solution should support instant VM/NAS recoveries.


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11	5.2.2 b) point 6	48	The proposed backup software should support instant recoveries for any backup to VMware or Hyper-V virtual machine or other Virtual platform like OVM. Also support instant database recoveries of MS SQL, Oracle, postgre etc. Proposed backup solution must support virtual backup without the need of any windows environment or backup server and should support instant recovery of VMWare virtual machines.	The Proposed backup solution must support virtual backup without the need of any windows environment or backup server and should support instant recovery of VMWare virtual machines and should support instant database recoveries of MS SQL, Oracle etc.
12	5.2.2 b) point 13	50	The required backup/restore job speed/throughput for various type of workloads is as below : <u>Backup :</u> 1) RDBMS including Oracle, SQL, MSSQL etc. > 33 TB per Hour 2) Hypervisor including VMware, OVM, Windows, file system etc. > 33TB per Hour 3) Other workloads including files, image, video > 33TB per Hour <u>Restore :</u> 1) RDBMS including Oracle, SQL, MSSQL etc. >17TB per Hour 2) Hypervisor including VMware, OVM, Windows, file system etc. > 17TB per Hour 3) Other workloads including files, image, video > 17TB per Hour.	The Overall capacity of Backup license covering all categories of workloads such as RDBMS, OS, etc. required is 110 TB/ 150 instance/ 80 sockets. This capacity covering all categories is required to be fully backed up within the backup window of 4 Hrs. However, the backup speed of Oracle Database being critical workload shall be greater than or equal to 33 TB/Hr. The Restoration of full capacity of 110 TB shall be within 8 Hrs and for Database it shall be greater than or equal to 17 TB/Hr



13	5.2.2 b) point 14	51	The Backup software should use the RDBMS to store the catalogue and configuration information. The Backup software should have the capability to dynamically add the storage space for the RDBMS which stores the catalogue & configuration information.	The proposed Backup software must have its own method of maintaining the catalogue and configuration information. The proposed backup software should be able to recreate backed up data from existing volumes from metadata backups. The solution should offer recovery of specific volumes for recovery from metadata in case of a disaster recovery.
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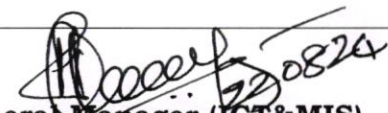
B) Addendum:

As Existing:

Sl. No.	Clause No. / Section No.	Page No.	
1	5.2.1 a) point 10	40	3) The storage must be certified to run leading virtualization software OEM like Windows Hyper-V, VMware, RHEL, Cloud VMs, Oracle VM server etc.
2	5.2.2 b) point 19	53	The backup software shall have features to maintain the backup copy immutable and indelible.

As Amended:

Sl. No.	Clause No. / Section No.	Page No.	Detailed Specification
1	5.2.2 b) added as point 20	53	The Backup software must be certified to run leading virtualization software OEM like Windows Hyper-V, VMware, RHEL, Cloud VMs, Oracle VM server etc.
2	5.2.1 a) added as point 25	42	The backup appliance shall have features to maintain the backup copy immutable and indelible.


General Manager (ICT&MIS)
BESCOM